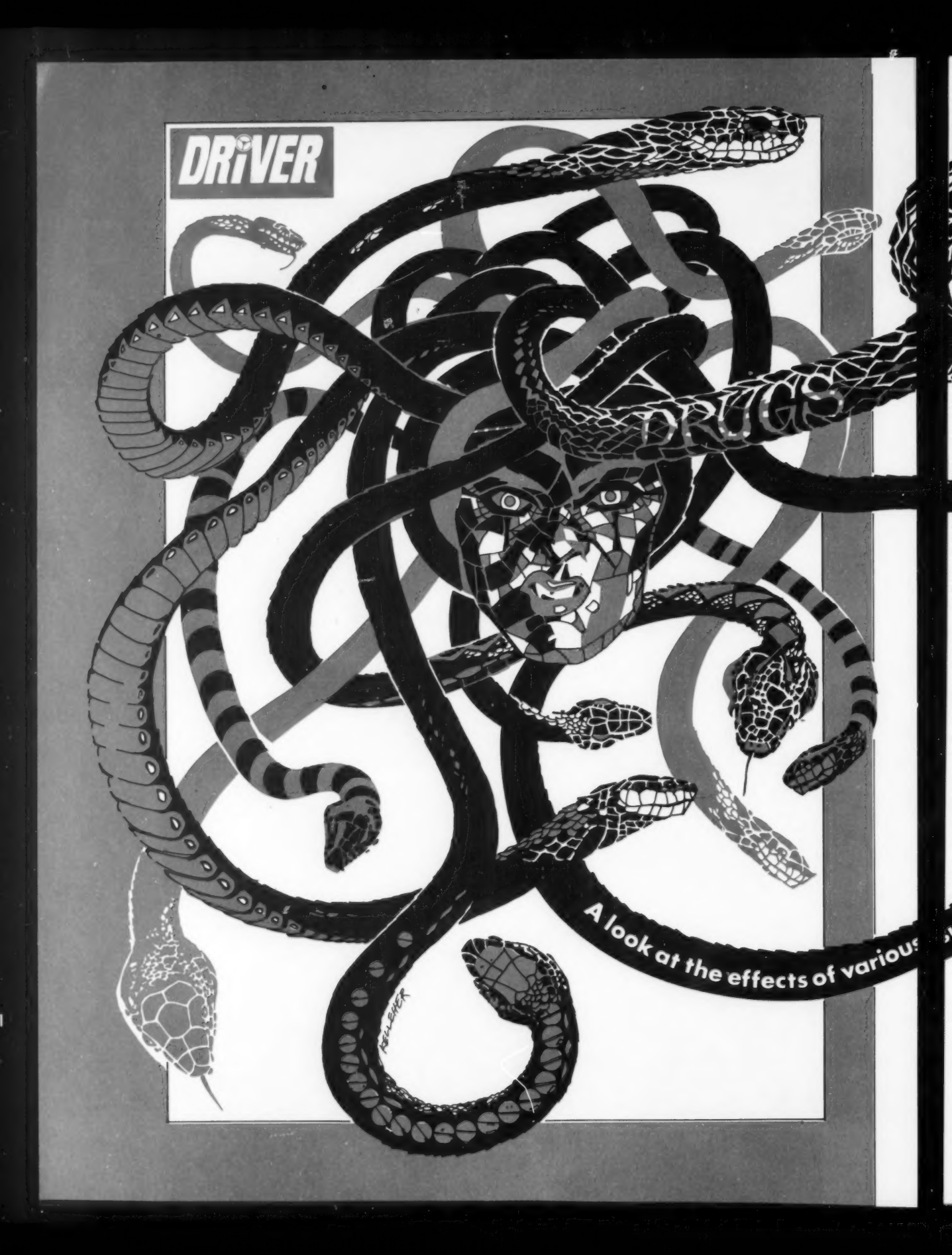
APRIL 1982

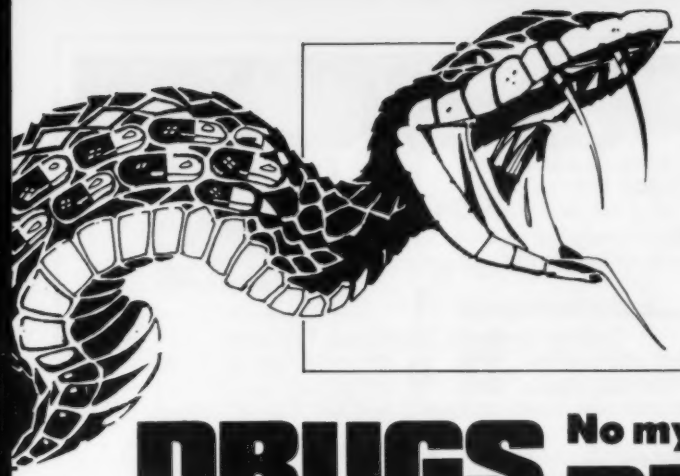
DRiVER

DRUGS

Ride a three-wheeler the wrong way and you may sink without a trace

safety and the Bermuda tricycle


DRiVER
DRUGS
A look at the effects of various



No myth about this Medusa

DRUGS and DRIVING

Read this trick question: When was the last time you got into your car after taking a drug?

What makes this a trick question is the fact that many people don't realize how many substances are really drugs. For instance, everyone would list heroin, cocaine and Valium under the heading "drugs," but fewer would put alcohol on that list, fewer still would think of coffee as a drug (or containing a drug, really) and almost nobody would think of a drug when they open their favorite brand of cola drink.

Yet many substances we use daily are drugs, or have drugs in them. From aspirin to cigarettes, from coffee to cold remedies, drugs are everywhere.

Therefore, we cannot avoid driving sometimes after having taken a drug. This is not necessarily dangerous — nobody would be dangerous behind the wheel after downing a Pepsi-Cola (unless he was a diabetic, perhaps) — but it all depends on the amount of whatever drug is taken. Virtually *any* drug can be dangerous, or even lethal, if taken in sufficient quantity.

So, at some lower level, most drugs will affect driving in some way — some will hurt driving ability, and some under special circumstances may even help. We'll be taking a look at some of these drugs in this article. Because of space limitation and the amount of material, this will not be an in-depth discussion, only a summary. We will not discuss lawfulness of any of these drugs, addiction to them or how they are abused, just their effects as they may relate to driving.

With the exception of alcohol, most of the effects of drugs on driving are merely suggested by research. Few actual-driving tests have been

continued

DRIVER

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FOR THE MILITARY DRIVER

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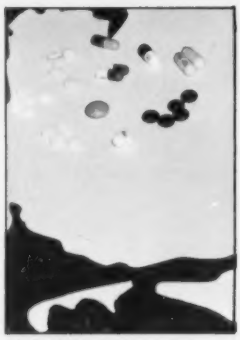
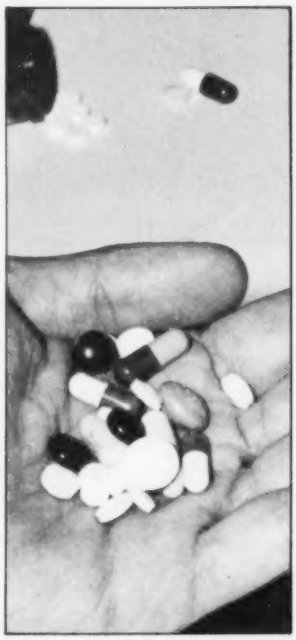


BARBITURATES



TRANQUILIZERS

performed with most drugs, in contrast to alcohol, which is involved in perhaps half the U.S. traffic deaths every year. However, it is not unreasonable to assume that the observed effects of drugs would be present behind the wheel just as they are elsewhere.

First, a look at some sedatives, or "downers."

BARBITURATES

Barbiturates are prescription drugs that are used to treat high blood pressure, epilepsy, anxiety and insomnia. Some examples are phenobarbital, pentobarbital (Nembutal) and secobarbital (Seconal). They are all depressants of the entire central nervous system (CNS). It should be emphasized that the CNS is extremely sensitive to barbiturates.

In a moderate dose, barbiturates relieve anxiety and tension, and they relax the user's muscles. A larger dose will depress the action of the muscles and heart, slow the breathing, lower the blood pressure, slur the speech, and cause staggering and deep sleep. It also decreases the action of the nerves, causing confusion, a lowered ability to think and concentrate, weakened emotional control, and slowed responses and reactions.

Barbiturate intoxication resembles alcohol intoxication: impaired thinking, lack of emotional control, uncoordinated movement and drowsiness. In some individuals and in some circumstances, small doses of barbiturates produce overt excitement instead of sedation.

All of this sounds bad for driving skills. Indeed, laboratory studies have shown that barbiturates decrease control of muscle movements, and that they also affect hand steadiness. Reaction times, both to audible and to visible signals, are slowed under barbiturates. Further, barbiturates decrease hand-eye coordination and the speed with which people process information. Barbiturates interfere with the ability of the eyes to follow moving objects, and with the ability to perform tasks that require a division of attention.

Note that the depressant effects of barbiturates are aggravated by alcohol.

TRANQUILIZERS

Tranquilizers are also CNS depressants, with uses and effects similar to those of barbiturates. They are used to treat anxiety, tension and insomnia, and they are sometimes used to treat pain and as muscle relaxants. A couple of the more common kinds of tranqulizers are chlordiazepoxide (Librium) and diazepam (Valium).

Tranquilizers affect emotional reactions and alertness. The usual dosage will make the user feel relaxed, and will lessen anxiety and tension. A higher-than-normal dose will make the user drowsy, and will commonly cause a depression of the central nervous system and relax the muscles. It will also reduce ability to concentrate. A high dose will intensify these effects and create symptoms that resemble alcohol drunkenness.

Tranquilizers decrease the information-processing ability of the brain and also affect hand-eye coordination, both functions necessary for safe driving. With regular use, some tranquilizers can cause impaired driving performance even the morning after use.

If this sounds grim, remember that we give you this information as a caution. If your doctor prescribes medication for you, you may need to drive while using it. But be careful, especially with those medications that cause drowsiness. Your doctor is the final authority on whether or not you may drive. Note that the depressant effects of tranquilizers are also aggravated by alcohol.

continued

ALCOHOL

MARIJUANA

drugs and driving

continued

ALCOHOL

Alcohol is also a depressant of the central nervous system, despite its reputation as a stimulant. The "stimulant" idea results from the fact that alcohol seems to work first on a person's inhibitions. It reduces these inhibitions, along with judgment and concern over consequences. Therefore, in small quantities, it appears to be a stimulant.

A bit more alcohol, and it shows its true nature. It makes the user less alert and slows his reaction times, and then it dulls his senses and interferes with his coordination. More alcohol brings on staggering and loss of consciousness. Alcohol can cause aggressive and hostile behavior. It reduces performance generally and slows reflexes and thinking.

Alcohol has been around so long that it does not receive the same attention in the laboratory that other drugs get. But it is just that — a drug. Ethyl alcohol, in the form of wine, beer, or distilled liquor is the greatest drug problem facing traffic safety experts. It is estimated that alcohol plays a part in half of the traffic deaths each year in the U.S.

So alcohol does not *need* study in the lab. Simple observation of the highway accident problem shows that alcohol destroys the ability to drive safely.

MARIJUANA

Marijuana has for a long time been the younger person's answer to alcohol — although it has by no means replaced alcohol; in fact, the two substances are often used together.

Marijuana is a plant, the cannabis sativa plant. Its leaves are dried and used just like tobacco, in pipes or in cigarettes called "joints." The psychoactive ingredient in marijuana is delta 9 tetrahydrocannabinol, or "THC." THC is a potent intoxicant that is also contained in the resin of the plant, called "hashish."

THC causes a multitude of symptoms, including apathy, dreaminess, drowsiness, excitation and hyperactivity, irritability and restlessness, anxiety, euphoria, depression, hallucinations, panic, talkativeness, impairment of coordination, increased appetite, and distortion of time and space. Obviously, these will adversely affect driving ability.

Marijuana impairs visual perceptual performance enough that it could lead to accidents, according to researchers. The amount of impairment is less than that expected with alcohol, but the stoned driver is not to be preferred over the drunk driver. Neither is safe to be around.

Marijuana also affects the ability to do things that require sustained attention, as anyone who has tried it will understand. Pot messes with your ability to handle tasks that demand

constant attention and response to visual and audible signals that appear at random, unexpected intervals.

But it doesn't stop there. Marijuana interferes with a driver's ability to "track." Tracking is the process of holding the car in one position in the lane, either by reference to the road, or to traffic ahead. Impairment could be demonstrated up to eight hours after smoking marijuana. Further, it negatively affects peripheral vision.

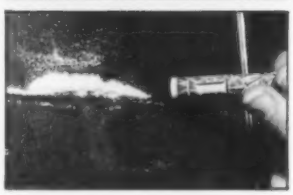
STIMULANTS

Stimulants have the opposite effect from the depressants — they increase the action of the central nervous system (CNS). Their effects in relation to driving have been studied much less than the depressants. Stimulants include amphetamines, cocaine and caffeine.

continued

HIGHWAY

AMPHETAMINES



COCAINE

drugs and driving

continued

AMPHETAMINES

Amphetamines are prescribed to treat mental depression and narcolepsy (uncontrolable deep sleep), as well as an aid in weight control. Common amphetamines are Benzedrine, dextroamphetamine (Dexadrine), and methamphetamine.

Amphetamines stimulate the CNS, increase the blood pressure and respiration, curb the appetite, lessen fatigue and raise the user's mood. Heavy doses can bring on muscle spasms, hallucinations, panic and aggressive behavior.

These stimulants can improve performance on a variety of tasks, but there is a danger that users will take more risks, because amphetamines are mood-elevators. Also, the stimulation affect is commonly followed by some depression.

COCAINE

Cocaine is another CNS stimulant. Its chief medical use is as a local anesthetic, used in nose surgery. As an illegally-obtained stimulant, it steps up the heart rate, blood pressure and the body temperature, and it lowers the appetite. It relieves depression, and promotes a feeling of being mentally alert. Unlike the amphetamines, cocaine is a short-acting stimulant, and after the short "high" the user experiences psychological depression, nervousness and irritability.

Cocaine can produce over-confidence in the user about his abilities. Cocaine is unpredictable; small doses have occasionally produced convulsions and death.

CAFFEINE

Caffeine is also a stimulant, one of the most common available. Coffee, tea, and cola drinks contain caffeine, and a little is even found in cocoa and chocolate.

Concentrated caffeine tablets are sold over-the-counter as stimulants for those who need to stay awake, such as long-distance truck drivers. Caffeine is contained in some headache remedies because it can help relieve headaches by constricting blood vessels in the brain.

Caffeine stimulates the brain and makes the user mentally quicker and more alert, and also more restless. Thus the effect of 100 to 200 mg of caffeine, the amount contained in one or two cups of coffee.

Ordinary drivers also use caffeine to keep them awake when they are on vacation trips or when they have had too little sleep. If caffeine is used to maintain alertness it should be remembered that once the driver stops drinking coffee he may be in trouble. One of the after-effects of any stimulant use is behavioral and mental depression (meaning less alertness, not "feeling blue"). What this means is that you could get drowsy and even fall asleep at the wheel. It's like the pendulum swinging back in the other direction — the stimulant makes you more alert, but after it wears off you are even less alert.

NARCOTICS

Narcotics are pain-killing drugs that are extremely addictive. Opiate narcotics are those drugs that are derivatives of opium — heroin, morphine and codeine. Heroin has no medical uses today, morphine is used as a pain-killer, and codeine is a cough suppresant. There are also synthetic narcotics such as methadone, which is used to treat heroin addicts for narcotic withdrawal.

Narcotics create a high, euphoric state. The user feels content and detached from the world. A moderately high dose will cause his body to feel warm, and his limbs heavy. His hunger and thirst are reduced along with the sensitivity to pain, and he often drops off into a deep sleep. Users often experience nausea, drowsiness, dizziness, inability to concentrate, and apathy.

CAFFEINE

Lower doses will cause lowered breathing and heart rates and reduced visual sharpness. Higher doses cause senses to be dulled and the user to lose consciousness.

Studies of driving ability of narcotics users are lacking, but it can be easily seen that these drugs will dangerously undermine driving ability.

Alcohol aggravates the depressant effect of narcotics.

HALLUCINOGENS

Hallucinogens, or psychedelic drugs, are most noted for causing hallucinations, but they can also distort the perception of time and space, and reduce the ability to judge between reality and fantasy, and the ability to think logically. Some examples are mescaline, psilocybin, and the initials that are more easily recognized than what they stand for — LSD, PCP, DOM, etc.

Low doses of these drugs, generally, create mood and perceptual changes and higher doses bring on the hallucinations. The effects of these drugs are unpredictable.

Studies are few of driving and psychedelics. One study reports incidents of "flashbacks," effects of the drugs long after their use. The subjects of the reports stopped their cars or drove off the road to avoid imaginary hazards they believed to be real.

OVER-THE-COUNTER MEDICATIONS

People carelessly down their prescribed medication with little thought of its effects. Small wonder, then, that they take over-the-counter medications with even less caution. The reasoning may go, "Anything available without a prescription can't be hazardous; otherwise they'd control its sale."

However, as we have said, any drug in sufficient dosage can be dangerous, even lethal. It follows that any drug, at some dosage level, can interfere with one's ability to drive safely.

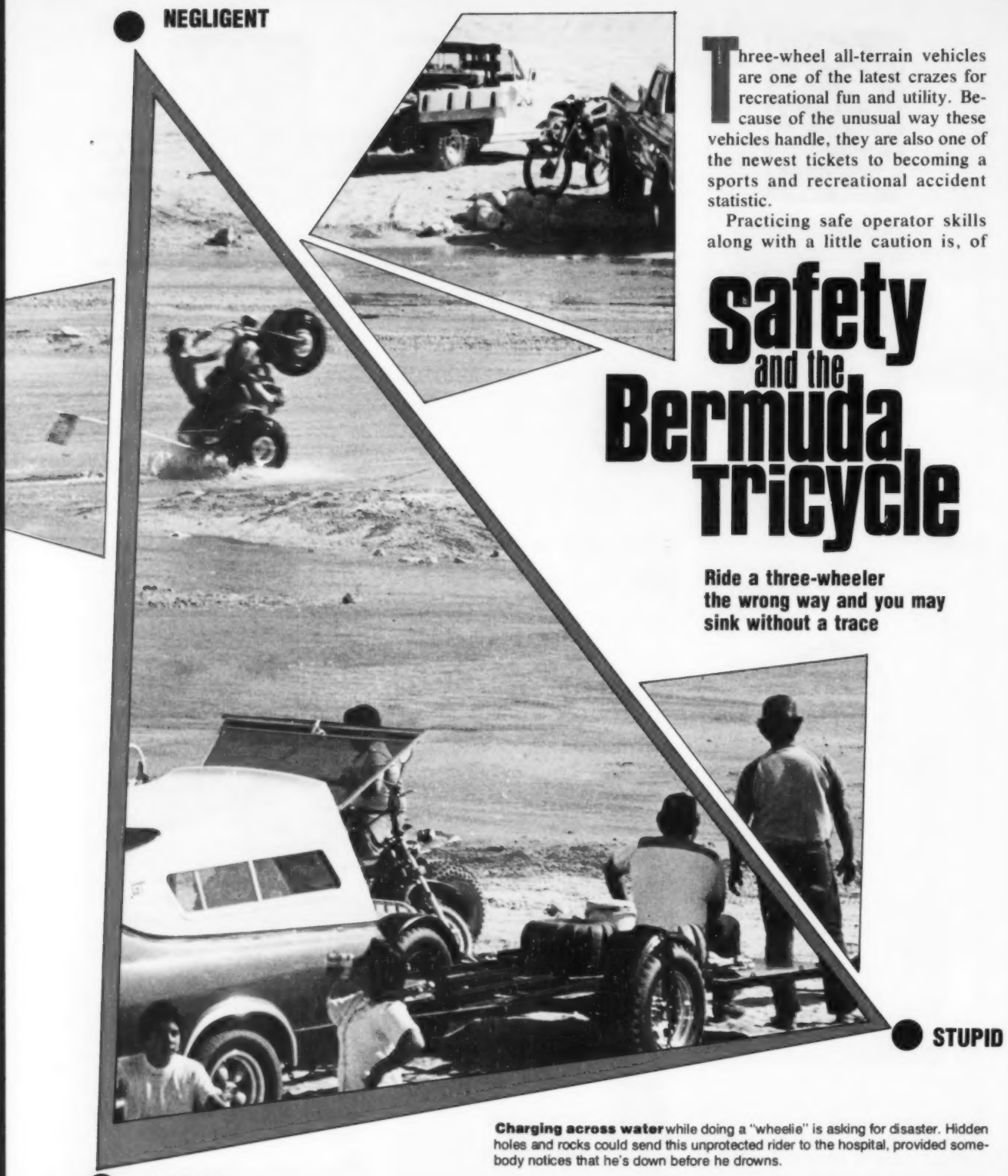
ANTIHISTAMINES

"Do not drive a car or operate machinery while taking this medication, as this preparation may cause drowsiness in some persons." "Since drowsiness may occur, do not drive or operate machinery." Where do these warnings come from? You might be surprised that they are on bottles for a couple of ordinary allergy remedies. These are the medications that are available over-the-counter in any drug store.

Allergy medications contain antihistamines, which dry up the nose and sinus passages. But one side effect of antihistamines is sedation. Little research exists to show the effects of the antihistamines on driving, but anyone who has taken them can testify to the drowsiness they can cause. Again, mixing these drugs with alcohol increases their effect and is very dangerous.

As we said at the beginning, this is only a short summary of drug effects. Its purpose has been to give you some information to make you think about those effects. Be very careful of any non-prescription medicine you take before driving. Rely on your doctor's judgment in the case of medication he prescribes for you. If you have any questions about the safety of any drug and driving, ask them. Don't assume it's okay.

And finally, remember the effects of marijuana, alcohol and the other drugs on your driving. Stay out of the car unless you're straight.



Three-wheel all-terrain vehicles are one of the latest crazes for recreational fun and utility. Because of the unusual way these vehicles handle, they are also one of the newest tickets to becoming a sports and recreational accident statistic.

Practicing safe operator skills along with a little caution is, of

safety and the Bermuda Tricycle

Ride a three-wheeler the wrong way and you may sink without a trace

Charging across water while doing a "wheelie" is asking for disaster. Hidden holes and rocks could send this unprotected rider to the hospital, provided somebody notices that he's down before he drowns.

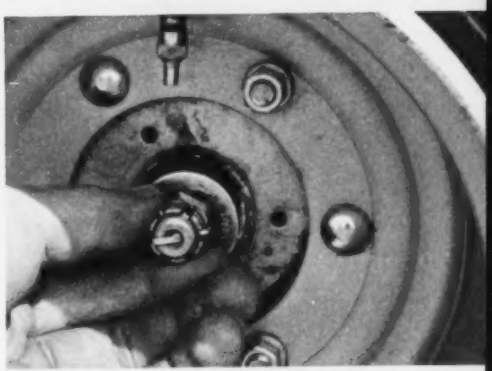
course, the secret of enjoying any form of recreation. Safe three-wheel vehicle operation is also a matter of common sense, intelligent riding and respect for the rights of others.

The safe riding tips on these pages were provided by the American Honda Motor Co., Inc., via the Motorcycle Industry Council, Inc. Special thanks to Maurice De Mong of San Bernardino, Calif., Mark Weixeldorfer and SCORE International for photographic assistance as well as technical advice.

As with any off-road vehicle, don't ride in restricted areas or on private land without permission.

Before each ride check the machine over from stem to stern. Never ride without checking the oil level and make sure the transmission is in neutral before starting the engine. Remember, warming the engine up ensures that the oil is circulating and that the engine won't stall.

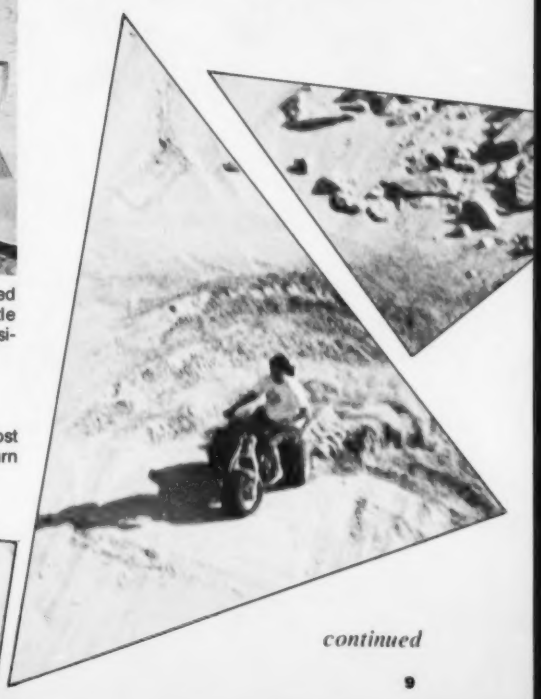
Brake control free play should be checked and adjusted. Also make sure the throttle opens and closes smoothly in all steering positions.



Look for loose fasteners before each ride, paying extra special attention to axle nuts.

Safe three-wheel vehicle operations begin with a good helmet, eye protection, trousers that cover the legs and boots high enough to cover the ankles. This "dummy" could use a good pair of goggles.

(right)
A running start is necessary to climb most hills, but those rocks on the outside of the turn could split the rider's unhelmeted head.



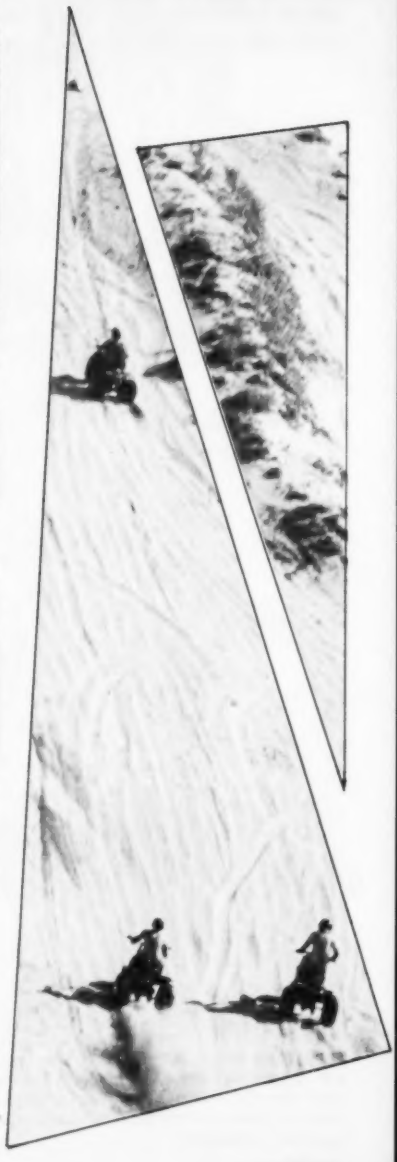
continued

(left)
Do all the switches work? Engine easy start? Headlight? Ignition? Engine stop?

(below)
Make sure the gas cap vent is in the "on" position or the bike will stall shortly after starting. Check the gas petcock to make sure it is set properly. Also check the fuel lines and connections for leaks.

(right)
By the way, is the tank full?

Inspect the drive train to make sure it is in good condition, well lubricated and the free play properly adjusted.



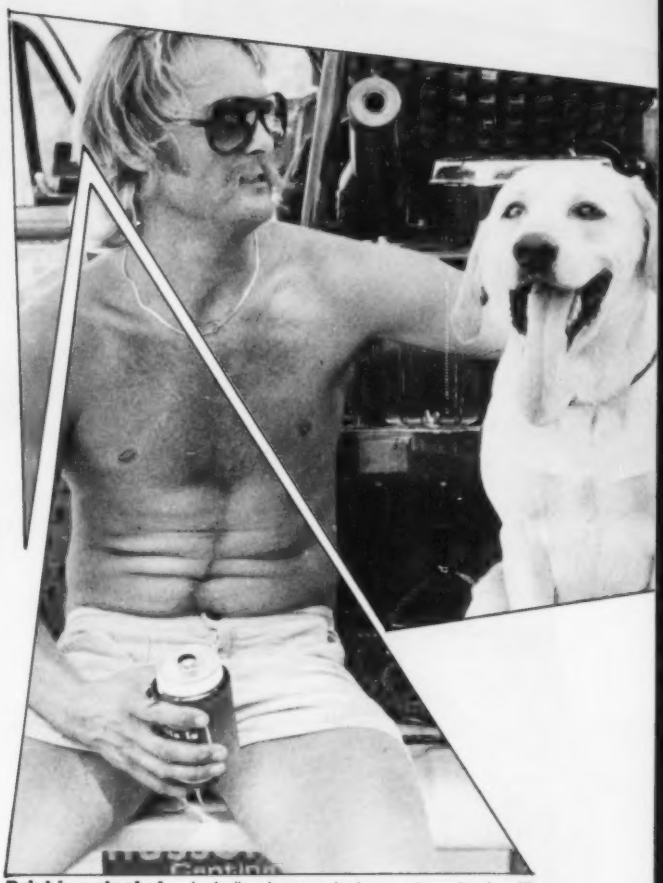
(above)
Riders who don't wear protective clothing and gear are asking for trouble, but riding among children and sunbathers spells danger for everybody.

(right)
Climbing hills requires small-scale practice, but safety is always a full-scale operation.

continued

Tires, including pressure, should be checked before each ride. You'll need a tire pressure gauge calibrated to the ½-pound to do the job right.

Practice riding your three-wheeler in an area free of obstacles until you become proficient. Choose a uniform surface of dirt, sand or snow. Avoid paved surfaces because the three-wheelers are hard to maneuver there and the pavement wears the tires out rapidly.



Drinking alcohol — including beer and wine — doesn't mix with any type of vehicle operation. The smallest amount of alcohol will impair your judgment and slow reaction time.

(below)
When riding, keep both feet on the pegs at all times. And don't try to stabilize a tipping machine by putting your foot down — you'll run over your foot or leg every time.

EXHAUSTED

Don't remove any part of the exhaust system looking for more power — all you'll get is more noise. Besides, taking off the spark arrester can cause serious engine damage from a too-lean fuel mixture.

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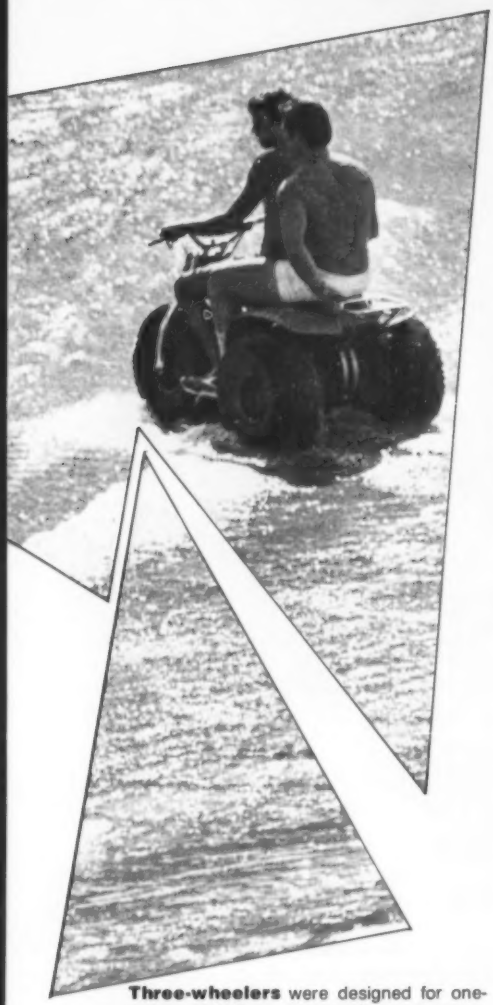


Three-wheelers were designed for one-person operations, not carrying passengers. However, the human body wasn't designed for accidents; wear your safety gear.

Turning a three-wheeler is different than most other vehicles. Turn the fork in the direction of the turn, shift your weight to the outside peg and lean your upper body into the turn.

To safely recover from a skid, shift your weight forward and steer into the skid. Don't change the throttle position or touch the brake until you've regained control. Keep your weight on the handle bars for steering.

ON THE DOWNHILL SIDE

Stop and inspect any slope for obstacles before starting a descent. Use low gear with a closed throttle to go downhill slowly. Keep the machine straight and avoid turning if at all possible. For additional braking action in sand, use the rear brake when going downhill.

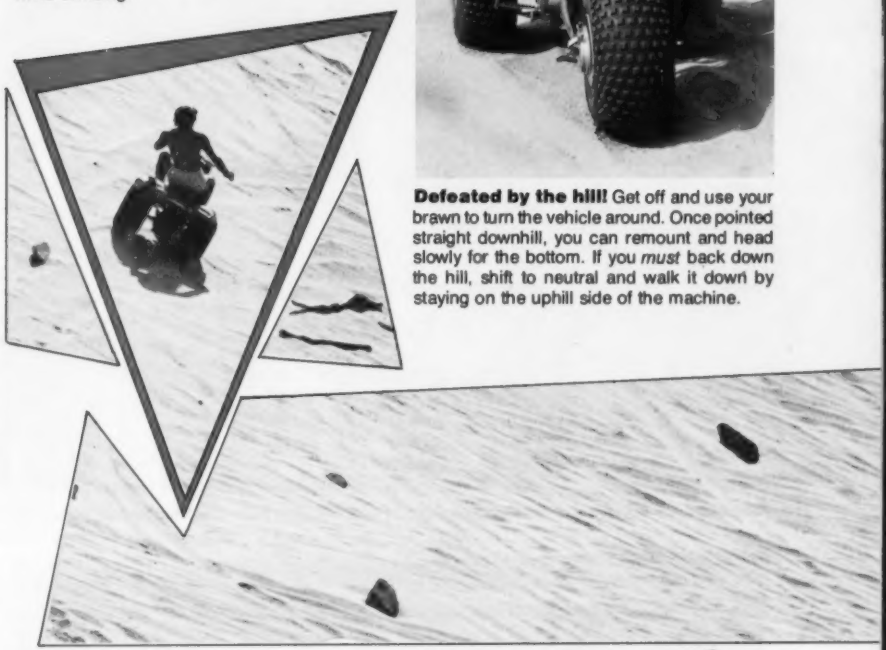
Always use a flag and mast when riding in dunes and hills.

(left)
Rather than ride across a slope — especially one that's slippery or full of obstacles — look for a safer route. If there's no way to avoid riding across a slope, shift your weight to the uphill side to maintain balance.

Begin a hill climb with a running start in the proper gear so that you won't have to downshift on the grade. Keep your weight over the front wheel. If the front wheel loses ground contact you could turn over backwards. Practice on small scale hills before tackling larger grades.

Can't make it? Then turn around — provided there's enough room — before you lose too much speed and can't make the run. Don't apply the rear brake if you come to a full stop while climbing.

Defeated by the hill! Get off and use your brawn to turn the vehicle around. Once pointed straight downhill, you can remount and head slowly for the bottom. If you *must* back down the hill, shift to neutral and walk it down by staying on the uphill side of the machine.



Debris in the sand could mean painful injuries for unprotected three-wheel operators.

ALL WET

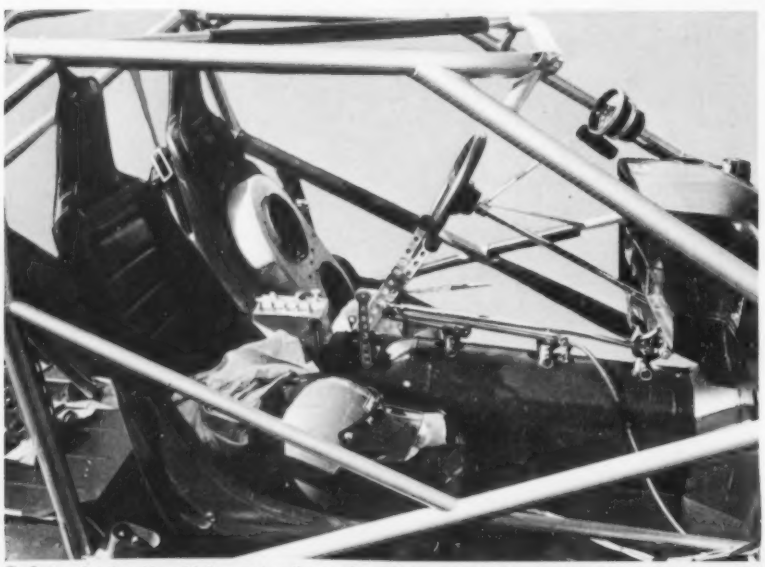
Traveling slowly in water allows you time to steer clear of rocks, holes and other obstacles. It also keeps water out of the spark plug and air cleaner.

Never attempt to cross deep water or fast currents. You'll lose control because of the buoyancy of the tires.

Keep applying the brakes to dry them after riding through water.

(right) Practice is the secret to fully enjoying three-wheeling safely.

Cheered on by their crews and a record crowd, two Top Fuel dragsters rocket toward the finish line a quarter-mile away.



Safety starts with vehicle construction and nothing is spared to protect the driver, including a full roll cage in the Pro Stock car.

After each quarter-mile run, the professionals completely tear down and rebuild their engines. Here, Don "The Snake" Prudhomme hones a cylinder with the help of a crewmember.

SHORT TRIPS

In most cases, if you knew *for sure* that you were going to have an accident, you'd probably wear your seat belts. However, when you don't feel that threat, a lot of you don't bother to buckle up.

The public's expectation of an accident seems to be greatest when associated with high speeds and long distances. In other words, a lot of you will buckle up when driving on an expressway or going cross country. And to most of you the short trips present no real threat, so you don't put on your belts when driving back and forth to work or going to the corner store.

Safety at the drags includes keeping the racing surface free of oil by covering spills with a quick-dry material and then blow drying the surface with a turbine engine.

Yet accident facts paint an entirely different picture. The government tests cars in 35 mph accidents, because at that speed or less is where most fatal accidents occur. Additionally, the death rate per 100 million miles is more than four times greater on rural roads than it is on the "high speed" expressways.

As for the dangers of the short versus long trip, more than two-thirds of all accidents happen within 25 miles of home. In fact, a recent motorcycle study found that more than half the riders involved in accidents were within five miles of home. You don't have to be a genius to recognize that the real danger of driving is the short trip.

Now, there's no denying that motor vehicle racing involves high speeds, so most people can understand the dangers. Yet it is the shortest form of auto racing that produces the highest speeds, while chalking up the best safety record. That's drag racing.

Drag races sanctioned by the National Hot Rod Association (NHRA) are run over a distance of a quarter mile. The quickest time that distance has ever been covered from a standing start is 5.573 seconds. The fastest a car has ever been going at the end of the "quarter" was 251.39 mph.

If you were going 150 mph in one car when you crossed the starting line of a drag strip at the same time as a six-second class "Top Fuel" dragster started its run, the dragster would probably cross the finish line before you did. By the way, the six-second "barrier" has been broken more than a thousand times in NHRA national events.

There is, however, an exclusive NHRA 250-mph club. At the end of the 22nd Annual Winternationals in early-February there were only 13 members who had gone 250 mph or faster.

There isn't a professional drag racer who would think of getting into a machine without putting on a helmet and fastening the seat belts. These ladies and gentlemen also wouldn't think of competing in a machine they didn't believe was the safest vehicle available.

The major reason for drag racing's safety record is the habit of anticipating problems before they develop. This attitude even carries over into the pit area. For example, mechanics are not allowed to work on a car unless the drive shaft has been disconnected or the entire car has been lifted off the ground and put on safety stands.

Now that you've got the general picture, take a look at some of the specific photographs from this year's Winternationals.

continued

Probably the most spectacular part of drag racing is the "burn out." The giant, $500-apiece rear tires are run through water and spun, smoking to warm them up to operating temperature and clean their surface down to the stickiest rubber.

The flexible sidewalls of racing tires may mean more traction on the drag strip, but that also means they should never be used on the street because they are easily damaged and could contribute to an accident.

Don't you wish you had somebody to tell you the best place to drive on the street? In staging before a drag race, a crew member guides Winternational Funny Car Champion Al Segrini back from his burn out.

The new breed of Pro Stock race cars produced a 7.822-second trip over the 1,320-foot track and a new standard top speed of 174.74 mph.

continued

For the first time in Winternational history, two women ran in the unlimited Top Fuel category. Joining the sport's only two-time Top Fuel Champion, Shirley Muldowney (left) was second-year driver Lucille Lee (right).

Almost buried by the roll cage of his Top Fuel dragster is the Winternational's fastest qualified Jim Reed of Sydney, Australia. Reed turned in the low elapsed time (E.T.) of the event at 5.698 seconds.

(left)
Safety for Funny Car drivers includes face masks because it is possible for the driver's compartment to fill up with smoke from burning tires as well as noxious fumes from the nitromethene fuel.

(above)
Shirley Muldowney handed the Winternational crown to Dick LaHaie when her engine "lost fire" on the burn out and the rules wouldn't permit the crew to re-start it.

The backbone of drag racing is the Stock classes. This F/Stock Automatic 1968 Camaro will be campaigned later this summer by U.S. Air Force MSgt Frederick L. Elsass.

INSURANCE COT...

You can think of your auto insurance as a bet by your insurance company that you aren't going to experience a loss the company will have to pay for. The premium the company charges you is based on many things that influence the likelihood that you will have a claim while they are insuring you. That's why your past driving record is important. If you have been an accident-free driver in the past, the company considers you a better risk and charges less to insure you than it does someone with a history of traffic violations or accidents. Insurance companies also consider things such as your age, if you drive to work every day, and the area you reside because those things also influence whether or not you are likely to have a claim.

The kind of car you drive of course affects the rate the company charges for collision coverage. To know how likely they are to pay a big collision loss claim on a certain model, the insurance companies get together and examine the average collision loss payments they have had to make in the past on each specific make, series and body style. They do this through a group known as HLDI, the Highway Loss Data Institute.

Each year HLDI announces the cars with the best collision coverage loss experience and those with the worst. For 1981 model year cars, the worst collision coverage loss experience was chalked up by:

HIGH VOLUME (at least 1% of total exposure)

Toyota Celica 2-door

Chevrolet Camaro Spec.

Toyota Corolla 2-door

Ford Mustang 2-door

Toyota Corolla Tercel 2-door

LOW VOLUME (Less than 1% of total exposure)

Chevrolet Corvette Sports

Datsun 280 ZX Sports

BMW 320i Spec.

Toyota Celica Supra Spec.

Mazda RX-7 Sports

A consistency in the makes of cars over the years has been noted. For example, earlier models of the 1981 cars with the worst loss experience also had substantially worse than average experience.

The 1981 models with the best collision coverage loss experience were:

HIGH VOLUME

Ford Escort stationwagon

Buick Century 4-door

Buick Skylark 4-door

Chevrolet Citation 4-door

Oldsmobile Cutlass 4-door

LOW VOLUME

Oldsmobile Omega 4-door

Dodge Aries stationwagon

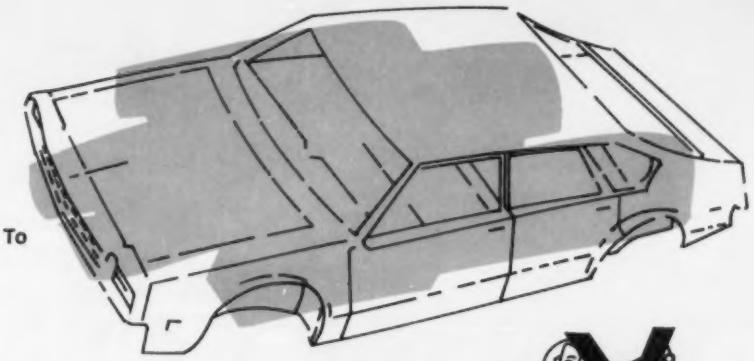
Ford Fairmont stationwagon

Plymouth Reliant stationwagon

Chevrolet Caprice stationwagon

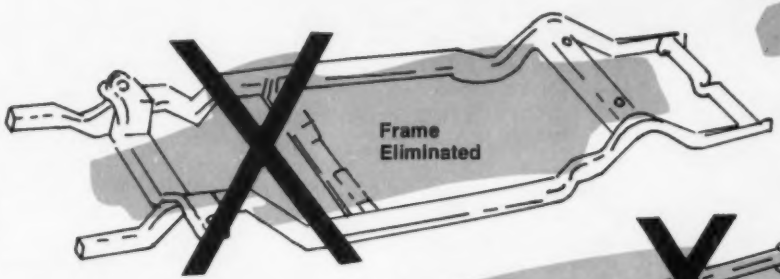
The Ford Escort stationwagon, the best car on the collision-loss list, had a loss experience 42 percent better than the average for all cars, and the Toyota Celica, the car with the worst collision-loss experience, was 59 percent worse than the average.

COMPARISONS between Rear Wheel Drive and Front Wheel Drive AUTOMOBILES



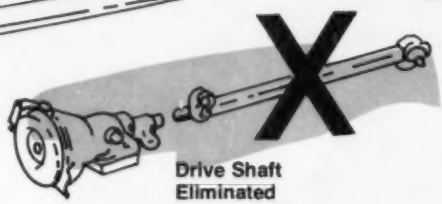
Body "Sheet Metal"
ALL NEW With Added Structure To Replace Frame

Rear (Drive) Axle Eliminated



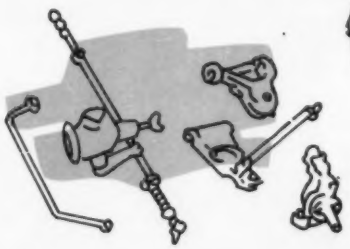
Frame Eliminated

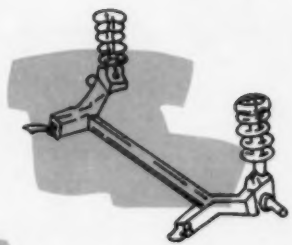
V-6 Engine



Drive Shaft Eliminated

V-8 Engine Eliminated

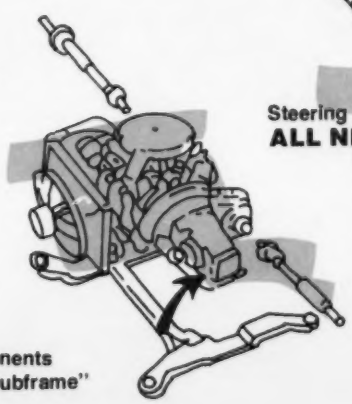




Rear Suspension **ALL NEW**

Steering **ALL NEW**

Engine V-6, IL4 Standard



Transmission **ALL NEW** "Trans Axle"

Front Suspension **ALL NEW**

Chassis Components **ALL NEW** "Subframe"

SURVIVAL DRIVING for MOTORCYCLISTS

ALL MOTORCYCLISTS

Survival driving is not something you master once; it's a frame of mind that requires constant practice.

a. You need to be alert at every intersection. This is where two-thirds of the motorcycle-auto collisions occur. Watch for the unsignaled turn into your lane. Watch for the late vehicle trying to make the light. Make sure the intersection is clear before you enter it.

b. Check your mirrors frequently — at least before changing lanes and stopping. Stay alert to what traffic is around you. Know your escape routes.

c. Watch the road surface and traffic well ahead. Anticipate problems. Things that do not bother the four-wheeled vehicle can give you fits — like railroad tracks.

d. Accept the fact that you are not being seen. Make your motorcycle and yourself as visible as possible. Be alert to the blind spots of other vehicles. Ride where you can be seen.

e. Use both brakes. Brake *before* slick surfaces and turns.

f. Remember, when you put the bike down you have made an irreversible decision. You have given up any options to turn or evade. You are now at the mercy of the other factors involved — the car, the 18-wheeler or whatever.

Of course, the above tips start with the presumption that you are doing what you can to protect yourself.

a. Getting on a bike after you have been drinking is a deadly form of Russian roulette. Handling a motorcycle is a more demanding task than a drunk can handle.

b. Wear your helmet. Head injuries are a leading cause of motorcycle fatalities and a leading cause of epilepsy for the survivors.

c. Wear your eye protection. The obvious reason is to keep things out of your eyes. That's important because you have only two to last a lifetime, but the really important thing here is what happens to your balance and concentration when you are suddenly hit in the eye. How do you maintain your position in traffic when your impulse is to close your eyes?

d. Wear durable clothing, including boots and gloves. Jackets and trousers will protect you against the cooling effect of the wind plus offer protection from "road rash" in the event of a spill. During the day, light or bright colors will increase your visibility. At night use reflective materials. The important thing about wearing leathers is that they slide well. By contrast, material that does not slide as well (like cotton) will cause the body to tumble or flail, increasing injuries.

I didn't mean to make this letter so long. My main purpose was to say that we (the Air Force) are off to a bad start in 1982. As this is written (mid-March) there have been eight Air Force motorcycle fatalities versus three for the same period last year. This concerns me, not only because of my job but also because I am a biker — and have been for over 30 years. I care, professionally and personally, and I believe each biker should feel the same. The experienced motorcyclists need to look after those who are less experienced and share some survival tips. I did not intend to imply that I have all the answers. I hope I never get that attitude. If I do, it will be time to park my motorcycle.

Ride safe.

LELAND K. LUKENS
Brigadier General, USAF
Director of Aerospace Safety

NO COMMENT

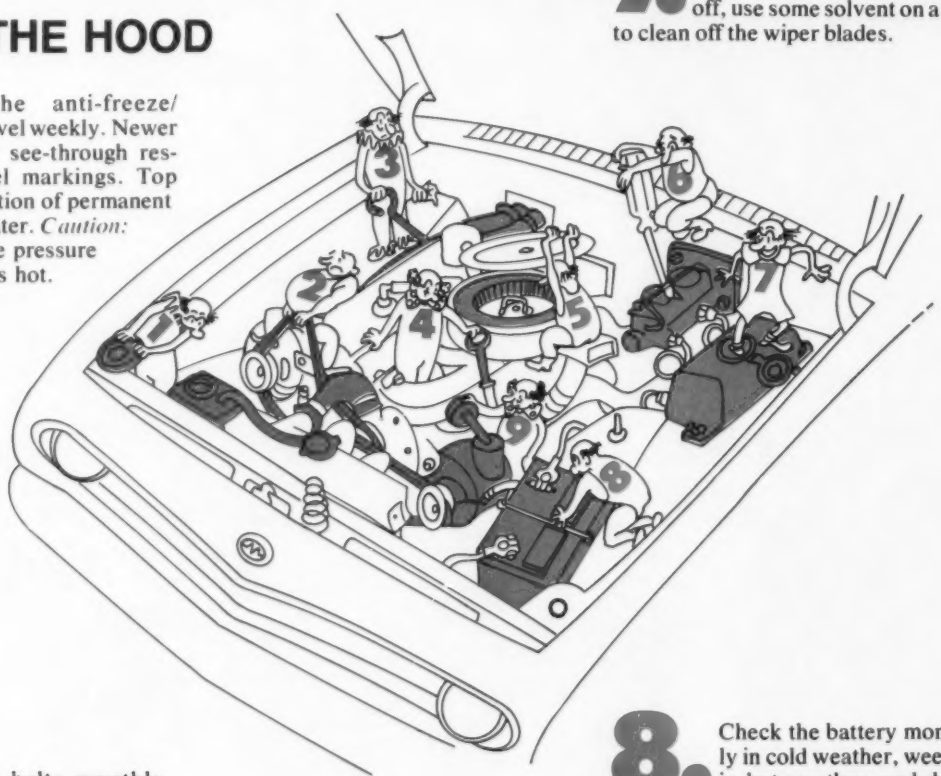
Photos courtesy Maj James S. Elder, Chief of Safety, Wright-Patterson AFB

show your CAR you care

Whether or not you pump your own gas your car probably receives less attention than it should. Regular maintenance checks and simple service can greatly reduce the cost of car ownership. Most of the checks and services shown here can be done at little or no cost. Best of all, they are quick and easy to do and they can save time, money and inconvenience now and later.

UNDER THE HOOD

1. Check the anti-freeze/Coolant level weekly. Newer cars have see-through reservoirs with level markings. Top off with 50/50 solution of permanent anti-freeze and water. *Caution:* Do not remove the pressure cap when engine is hot.



2. Inspect belts monthly. Replace worn, glazed or frayed belts; tighten them when they have more than ½-inch of slack when depressed between the pulleys. Replace bulging or rotten hoses and tighten clamps.

3. Check transmission fluid with engine warm and running, parking brake on. Shift to drive, then to park. Remove dipstick, wipe dry, insert and pull it out again. Add fluid if needed. *Do not overfill!*

4. Check oil every other fill up. Remove the dipstick, wipe it clean, insert it and remove it again. If it's low add oil.

5. Check the air filter every month or two. Replace it when it's dirty or as part of tune-up. It's easy to reach, right under the big metal "lid."

6. Check brake fluid monthly. First wipe dirt from the brake master cylinder reservoir lid. Pry off the retainer clip and remove the lid. If you need fluid add the approved type and check for possible leaks.

7. Keep windshield washer reservoir full. When topping off, use some solvent on a rag to clean off the wiper blades.

8. Check the battery monthly in cold weather, weekly in hot weather, and daily on long trips. Make sure the cables are attached securely and free of corrosion. Check fluid level. If yours has filler holes add water as needed. Note: Do not smoke or light a match near a battery.

9. Power steering fluid: Check level once a month. Simply remove the reservoir dipstick. If the level is down add fluid.

car care council

AROUND THE CAR

10. Inspect windshield wiper blades whenever you clean your windshield. Do not wait until rubber is worn or brittle to replace them. Wiper blades should be replaced at least once a year. More often if smearing or chattering occurs.

12. Keep tires inflated to recommended pressure. (It helps to own your own gauge.) Check for cuts, bulges and excessive tread wear. Uneven wear indicates misalignment or out-of-balance.

13. Look for signs of oil seepage on shock absorbers. Test shock action by bouncing car up and down. The car should stop bouncing when you step back. Worn or leaking shocks should be replaced. Always replace in pairs.

11. Be sure all your lights are working, including brake lights, turn signals and emergency flashers. Keep them clean, too.

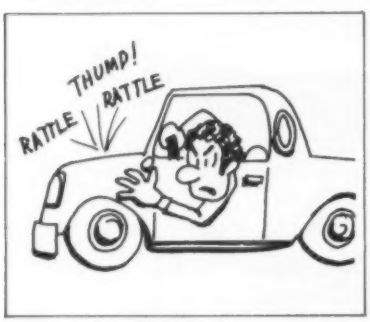
14. Look underneath for loose or broken exhaust clamps and supports. Check for holes in muffler or pipes. Replace rusted or damaged parts.

tteecc!h!h

double tech with tsgt ron lathrop

COMMENT: The other day on the way home from work some idiot pulled out in front of me and I had to slam on my brakes. Well, guess what? The milk I had just picked up spilled all over my carpet on the passenger side in the front. About a half-gallon or so. Since that day I've tried everything from A to Z and can't get the smell out. I've tried carpet cleaners, carpet fresheners, deodorants, special cleaners, vinegar, lemon juice, etc. Is there any solution to this problem?

REPLY: I had a similar problem, only the container of cottage cheese hit me in the back of the neck and then ran down the seat into the carpet under the seat. Basically, you should remove the carpet. If you look closely at the door sill and the panels in the floor wells, you'll see how they can be unscrewed and the carpet pulled up. Then wash the carpet with a mild soap and cold water solution. The trick is to rinse and dry it completely. While it is drying, clean the floor area because this is probably where the sour milk is actually trapped and raising such a stink.



COMMENT: I have a noise in my car for which neither I nor the authorized dealer's service shop can find the cause. It occurs when I step on the brake to slow down quickly or stop in city traffic (15 to 35 mph). I hear and feel a thump under my left foot. This doesn't happen every time I decelerate quickly. I've looked under the floor pan on the driver's side and the only thing I found was the automatic transmission gearshift linkage. The dealer said that the linkage was not hitting the floor pan which is what I suspected to be the problem. Can you solve my problem?

REPLY: As any long-time mechanic will tell you, such noises, booms and thuds are very hard to locate because car bodies and frames transmit sound so well. There are some things that I can think of that would put a thud at your feet. For example, a shock that is moving in its tower, a spring that isn't properly fastened or even brake shoes that are being moved in and out by an irregular drum surface. Then there's the classic moving exhaust system, too. But, being from an area where most of the population worked in auto factories, I have also heard all the "boy-will-this-drive-somebody-crazy" stories about putting soda bottles inside body panels. Such tricks are maddening in addition to being hard to pinpoint and eliminate. If any readers have similar problems for which they have found a cure, let me know.

COMMENT: My car has a defect in its heating/cooling system. When operating the air conditioner in the summer with all the controls properly set, hot air flows onto the driver's accelerator foot. Dealer repairs have not helped. Can you suggest any repair procedures to correct this situation?

REPLY: I can't tell you how many hours I spent upside down on my back under the dash of my ex-wife's car working this one out a couple of years ago. Start under the hood. Make sure all the hoses are in good condition and snugly connected to the vacuum tank. The vacuum tank will be either ball or canister-shaped and located on the firewall. Conduct a similar check where the hoses tie into the air conditioner switch control. What is happening is the temperature door isn't closing. There is usually a cable connection between the temperature control knob and the door. If it isn't adjusted properly, or not fastened securely at both ends, the door will remain open when it should be closed. Repeated adjustment may be necessary to get it so that it is fully open when the control is on "hot" and tightly closed when set to "cold."

COMMENT: In the July and December 1981 answers about wider tires you implied that they have more rubber on the road and therefore less load per square inch. However, the only way to get less load per square inch is to reduce the pressure in the tire, i.e., tire air pressure is the same as tire road pressure. It seems if the car weight is doubled and tire air pressure is not changed, the total result is a foot print that is twice as large.

Your answer led me to believe that wide tires stop better because they have softer (stickier) rubber. If tire pressure is reduced the pressure of the tire on the road is also reduced and so the normal force is reduced. And, as a result, stopping will not be changed.

If tires were all made of the same material, and carried the same air pressure, would wide tires provide a quicker stop than narrow tires? I still think they would, but I cannot prove it in light of what I have written above. What have I forgotten? Not coefficient

of friction (Cf) for it will be constant for the same material. I cannot understand your comment that changing weight can change the Cf.

REPLY: The entire weight of the car must rest on the road. If you have a 2,000-pound car, 2,000 pounds will be resting on the road. If that vehicle's weight distribution is 60/40 (60 percent on the front wheels, the remaining 40 percent on the rear), then the front two wheels are supporting 1,200 pounds, or 600 pounds each.

For a car this size, tires have a contact area (the amount of rubber actually on the road) of about 10 square inches each. That is the maximum contact area, provided the tire is properly inflated. With those figures, each square inch of the front tires would be supporting approximately 60 pounds.

Put a wider tire on the car with a contact area of 15 square inches and the load per inch (again assuming proper inflation) drops to less than 43 pounds. Put a really wide tire with 18 square inches of contact area on, and the pounds per inch are down to about 33.

Doubling the weight and not increasing the tire pressure will NOT double the footprint. In fact the footprint (contact area) will become smaller. While some of the tire's sidewall might be forced down against the ground, the middle of the tire — because it is not properly inflated — will be concave and no longer touch the road.

Back to the example. No matter how wide the tire, the total weight each front tire must support is still 600 pounds. Now if the standard tire we started out with (the one with 10 square inches of contact area) has a Cf of 0.8 the tire can only generate 480 pounds of friction force. The wider tire might have a Cf approaching 1.4 (or is more "sticky") and will be able to generate 840 pounds of friction force. Therefore, the wider tires will be capable of slowing the vehicle quicker and stopping distance will be reduced.

Your actual question is such a mixed bucket of worms that there is no one answer. To start with, if both the standard tire and the wide tire had the same inflation air pressure, then more than likely one of them is going to be incorrectly inflated. If the pressure is correct for the standard tire then the wide tire will probably have too much air in it and be convex against the road. However, if the pressure were correct for the wider tire, then the standard tire might not have enough air and would be concave compared to the road surface.

So let's get rid of the same pressure idea and say that both tires are inflated to provide their ideal footprint. If we use the exact same mixture of synthetic rubbers, fibers, carbon black and chemicals to make both tires, they are still going to have different Cfs. This is because tire rubber is less able to resist frictional shearing forces, therefore the load on the tire greatly affects the Cf.

For example, let's say we are using the proper tire rubber compound to give a 1.4 Cf when the load in pounds per square inch is about 33. On the narrower tire where the load is 60 pounds per square inch, the tread compound will not work as designed, the Cf will fall off accordingly. So, in this case, the wider tire would deliver much better stopping action.

Now take the same two tires, but with a compound designed to perform its best at 60 pounds per square inch. Because of the changing load, the Cf is changed and the narrower tire will perform better because it can generate more friction force.

The bottom line is that tire selection is an exact science best left to the experts. Don't try to out-guess them.

EDITOR'S NOTE: If you have a general interest automotive question that you would like answered, and feel others could use the knowledge also, send it to:

Double Tech
DRIVER Magazine
HQ AFISC/SEDD
Norton AFB, CA 92409

Be sure to include all available information which may help in finding the correct solution.

HOW IT HAPPENS!

Three airmen are driving on a deserted stretch of highway at 60 to 65 mph in a small station wagon. There are no visual obstructions and the weather is clear. All three men are rested and none has had alcohol or drugs. Nobody is wearing a seatbelt.

The right rear tire of the station wagon blows out and the driver loses control of the vehicle, which overturns three times. The driver is ejected through the windshield and dies from a broken neck. The two passengers remain inside the car and suffer minor injuries.

A lot of people would argue from this accident that seatbelts are unnecessary. After all, this was a serious accident, yet two people were only slightly injured. But remember the third individual — the driver. He was thrown through the windshield and he died. If he had worn his belt, he would have stayed inside the car and he would have lived. As for the other two, they might have emerged from the car without even the minor injuries. Think about it.

DOT INVESTIGATING ELECTRICAL PROBLEMS IN VW VEHICLES

The Department of Transportation has opened a safety-related defect investigation involving an estimated 750,000 Volkswagen and Audi vehicles because of electrical system problems. The investigation covers model year 1975 to 1980 vehicles equipped with fuel-injected gasoline engines.

The federal safety agency said the investigation is the result of more than 2,000 consumer complaints, including reports of stalling, inability to start the engine, or detection of smoke or fumes from overheated components due to a failure in the electrical system. The agency said it has no reports of accidents or injuries to date because of the problem under investigation.

The vehicles involved are 1976 to 1980 VW Scirocco and Dasher models; 1977 to 1980 VW Rabbits; 1980 VW convertibles; 1980 VW pickups; 1980 VW Jettas; 1975 to 1979 Audi Fox models and the 1980 Audi 4000.

In announcing the investigation, NHTSA Administrator Raymond A. Peck Jr. noted that VW has recently announced a limited service recall concerning hard starting conditions experienced by some of the same vehicles. Peck disclosed that after a substantial engineering analysis and review of data gathered during earlier VW safety recall campaigns, the agency had unsuccessfully urged VW to conduct a voluntary safety recall in this instance.

Owners experiencing such electrical problems are urged to report them by writing to the National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, D.C. 20590, or by calling the agency's toll-free Auto Safety Hotline on 800-424-9393 (or 426-0123 in the Washington, D.C. metropolitan area).

WATCH FOR WATER IN DIESEL FUEL

With diesel engines rising in popularity for passenger cars, the Automotive Information Council (AIC) points out that care must be taken to keep excess water from the fuel system.

Manufacturers have installed warning systems to signal excess water, plus filters to separate the moisture — and those items are available as accessories for older cars — but car owners still should be aware of the potential danger. For example, even small amounts of water in diesel fuel can reduce operating efficiency and can result in rapid wear and corrosion of the injection systems.

Diesel fuel actually is a light oil that lubricates the injection system which has close tolerances and precision-milled surfaces critical to proper performance. Water in the fuel strips the lubricant from surfaces and then settles in the injector pump, where it can cause rust to form. That's why properly functioning warning systems and filters are so important.

Condensation causes water build-up in the bottom of the fuel tank, whether it be with a diesel or gasoline engine, so keep the tank more than one-quarter full to prevent drawing water from the bottom.

Some service stations converted their old underground storage tanks to diesel fuel and, because of their age, water sometimes can seep into the fuel, eventually finding its way into cars. Or an improper mix might have been delivered by the tanker. More than 500,000 diesel-powered cars were sold in the U.S. in 1981, a 30 percent increase over 1980.

RECALL OF MOTOR HOMES

The Department of Transportation has announced the voluntary recall of 1,783 motor homes manufactured by Winnebago Industries, Inc., to correct a defect that could result in a gas explosion or fire.

According to the department's National Highway Traffic Safety Administration, the vehicles include 963 Winnebago Chieftains (Model WCN29RT), and 820 Itasca Sunflyers (Model ICN29RT), manufactured in model years 1979, 1980, 1981 and in 1982 models built prior to Nov. 1, 1981.

In these models, the sealer surrounding the fuel filler pipe shroud may not remain pliable and it is possible that gas vapors will enter the coach interior at refueling, creating the potential for explosion or fire.

Winnebago cautioned owners of such vehicles to use care when refueling. All electrical and LP gas appliances should be turned off. There have been no reports of deaths or injuries.

The defect was discovered by Winnebago through warranty and field reports. In letters to owners of these vehicles, Winnebago asked purchasers to contact their dealers to arrange for resealing of the filler pipe shroud area without charge.

Winnebago advised owners that if they have any problems getting a dealer to correct the defect free of charge, they should contact the company's recall coordinator at (515) 582-3535.

HLDI STUDIES TOTAL LOSS INSURANCE CLAIMS

An analysis by the Highway Loss Data Institute (HLDI) of collision coverage claims for 1980 model compacts and subcompacts has shown that the newer designs of front-wheel drive and transverse-mounted engines, which often require complex repair procedures, are no more likely to become total losses in collisions than traditional rear-wheel designs.

HLDI found no evidence that the frequency with which collision coverage claims involved salvage was greater for the new designs. However, there were results indicating that cars built with separate frames less frequently became total losses than those with unitized body construction.

EVERYTHING is under CONTROL

SAFETY STANDS

Every year many Backyard Mechanics are killed or injured because they fail to properly support the vehicle they are working under. The classic accident of this type finds the erring Backyard Mechanic crushed when the car slips off a bumper jack.

Conventional bumper jacks (or any jack that comes with the vehicle) is strictly for emergency use. You should NEVER get under a car that is supported by a bumper jack alone.

Either ramps or safety stands are absolutely mandatory whenever a car is raised off its wheels.

Top-quality jack stands are surprisingly inexpensive when purchased in the Exchange or on sale from a discount or parts house. They can easily pay for themselves the first couple of times they are used. Some Backyard Mechanics think ramps are a little safer and easier to use. However, they are initially more expensive. With both the ramps and safety stands you'll also need a couple of heavy wooden blocks to use as wheel chocks. Always select support locations carefully when using jack stands. In fact, they should be used at jack points only. Most owner's manuals will tell you where these points are for your vehicle.

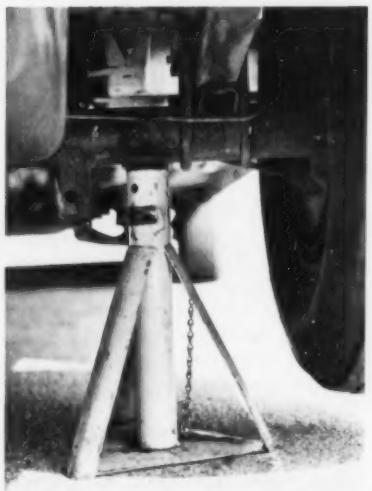
Never place jack stands against the underbody. Not only is there a good chance of doing permanent damage to the body, but the vehicle can't be properly supported and may slip off the safety stand.

Make doubly sure that the location you select for placing the safety stands will support the car in a stable manner, distributing the load evenly. Never use a single jack stand to hold up an entire side of the car at a midway location between the front and rear wheels. Again, this can cause permanent body damage and is extremely unsafe.

Jack stands should not be used under the front or rear bumpers, either. Bumpers are for providing minor protection in very slow-speed accidents, not for supporting an entire vehicle's weight.

Be extra careful when placing the safety stands not to damage brake lines, fuel lines, parking brake cables, rear leaf springs, exhaust systems, catalytic converters or other components located under the vehicle. And never try to support the vehicle at the tie rods, control arms or other flexible portions of the suspension.

Ideally placed, one leg of each triangular-based safety stand will point straight outward from the side of the car.



BACKfire

LETTERS to the EDITOR

PREVENT CHAIN-REACTION ACCIDENTS

Your DRIVER Magazine is an excellent publication.

I would like to recommend that in some future issue you address one of the most serious driving errors known — that is, pulling up too close to another vehicle that is stopped for a traffic signal, stop sign, etc.

Several years ago I attended a traffic safety course where the instructor said, "When you pull up behind a vehicle that is stopped in front of you, never get so close to that vehicle that you can't see the bottom of the rear tires. This good defensive driving habit will allow enough space between vehicles to prevent most chain-reaction collisions; will prevent, or lessen, front-end damage in case your vehicle is struck from behind; will eliminate, or at least lessen, personal injuries; and at the same time will not allow enough space for some discourteous driver to pull in front of you."

I really get peeved when I'm stopped and the vehicle behind pulls up to about six inches from my rear bumper.

Mr. Bob Boylan, USN
Warminster, PA 18974

Thanks, Bob, for the good advice.

REPLACING HEADLIGHTS

Reference the comment and reply in December '81 "Double Tech" concerning replacing $48 motorcycle headlights with $6 car lights. If the person's headlight costs $48 to replace, I agree that it was probably a halogen unit and your reply was very appropriate.

I would like to caution readers on the use of automobile headlights as a replacement for their motorcycle lights. I tried that much-publicized idea several years ago with disastrous results. My original equipment headlight lasted five years before expiring. The automobile headlights I replaced it with lasted less than 1,000 miles each (one month) before I learned my lesson. Replacing headlights at gas stations got old fast.

A close examination revealed that the equivalent automobile headlight (GE 6014) has a metal reflector approximately a half-inch in front of the inner low/high beam light filament. The metal reflector would break under vibration and bounce inside the headlight, severing the filament(s). Incidentally, I don't consider a Honda 750 as being plagued with excessive vibration. Installation inside a fairing would reduce vibration somewhat, but it's still not worth the panic of being 100 miles (or more) from home when darkness begins and you realize the headlight you replaced two weeks ago no longer works.

Headlights have other differences in intensity, light dispersal, etc.; however, those differences are relatively minor compared to the problem I addressed. I now use a halogen light with additional running lights on my touring bike. I consider adequate lighting second only to superb brakes in priority as safety items.

I hope I was able to clarify a seemingly cut and dried issue.

2d Lt Ronald L. Latreille, USAF
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DRUNK DRIVING

In your Letters to the Editor column (January '82) I was pleased to see another person speak out against DRUNK DRIVERS! I have been to many bases and I see drunk driving in the service as totally UNACCEPTABLE! I personally feel that the members of the Armed Forces should set an example for the civilian community. The Armed Forces should make a mandatory jail sentence for first offenders, AT THE VERY LEAST! Putting someone out of the service is not punishment, it's injustice to those who care.

I feel drinking is a major problem, worse than drugs. A lot of people do not do drugs, but almost everyone drinks. You do not have to believe me, just go to any club on any base on any night and see for yourself. By the way, these same people do not walk home, THEY DRIVE!

All I want to say is, please get tougher with the military laws so others may live. Let the good guy win for once.

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SAFE BICYCLING

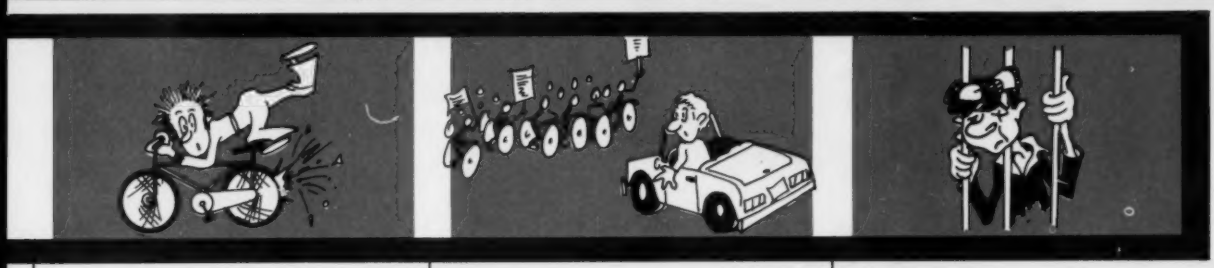
I was overjoyed to see such excellent coverage given the subject of bicycling in your July 1981 issue of DRIVER. I did not see this issue until recently, but would like to offer some comments/information on the subject of bicycling that might be of interest.

A few items in your coverage were incorrect and/or debatable, and I offer you my opinions on them.

1. The thin European inflation valve is called a "presta" not "presto" valve.

2. You do not have to be able to ride at 20 to 25 mph on level ground to bicycle safely. One of bicycling's biggest "selling points" is that you may vary the pace to match your desires, the terrain, weather conditions and the physical fitness goals that you set for yourself. In time, you may indeed cruise at that speed, but it should not be considered a guideline for safe bicycling.

3. In my experience, I have not seen that lower tire pressure results in fewer flats. High-pressure tires can deliver hundreds of flat-free miles of travel, and do so with less work than low-pressure tires. High-pressure tires have a much lower rolling resis-



tance and can help make your riding appreciably more enjoyable. Rider attention to roadway debris is much more a factor in determining the number of flats that you will encounter than is tire pressure.

Bicycle tires will inherently lose more air than car tires, and their pressure should be checked frequently with a pressure gauge. When inflating your tires, use a hand or foot pump when at all possible. The pumps at service stations were not designed to fill bicycle tires. If proper attention is not given to this supposedly simple act, you may very well wind up with an injury as a result of the bicycle tire exploding. When using a service station pump to fill bicycle tires, use the pump only in short bursts, checking the pressure and ensuring that the tire is properly seated on the rim between each burst. Do not rely on the pressure setting on the pump to shut the pump off. Service station pumps are designed to deliver air at large volume, and bicycle tires are filled with a very low volume of air. The pressure in the bicycle tire may very well exceed a safe level before the pump shuts down.

Parents, resist the temptation to buy a too-large bicycle for your children in the hope they will "grow into it." Do not rationalize that you will be saving money by not having to buy another bike when a properly-fitted bike is outgrown. Having a child ride a bike that is too tall is courting disaster. Such a bike is difficult to control and very dangerous for a child to mount or dismount. The saving of a few dollars is nothing when compared to the possible injury or death of your child. Likewise, do not allow children to ride in the road until you have made sure that they can handle a bicycle properly and understand the rules of the road.

To all adult riders, I ask that you obey the rules of the road at all times. Your safety is enhanced when you ride in a predictable manner, and you help promote bicyclists as responsible individuals. As an added benefit, you are teaching every child who sees you the proper way of handling a bicycle. Those of you who do not ride a bicycle properly, be aware not only of the danger that you place yourself in, but of the danger to those children who observe and imitate your actions.

Lastly, I wholeheartedly recommend that you join a local bicycling club. I know of nowhere else that advice, opinions, and friendship are so freely doled out. These people have a wealth of knowledge that is waiting to be shared — seek them out!

CTO2 David P. Gilmore, USN
FPO New York 09524

Thanks, David, for your informative letter. You mention several things that are new to us.

USE TAX FOR BICYCLISTS

Your October 1981 issue contained a letter to the Editor from a bicycle enthusiast who made the statement that bicyclists have the same right to the road as motorized vehicles. An Editor's comment following the letter substantiated this statement.

I have no doubt these statements are completely true in a legal sense. However, nothing could be further from the truth in a fact-of-life sense. Most motorists (me included) see bicyclists as nothing more than "rolling pedestrians" and are aggravated (and oftentimes infuriated) by their presence on roadways which were designed and intended for use by automobiles. How much tax money is derived from bicyclists for the construction and maintenance of the roadways they so vehemently claim an equal right to use? This letter writer even goes so far as to say that he should probably have *more* right to the roadway since he is conserving gasoline. Doesn't he realize that without the past sale of gasoline, he wouldn't even have a road to lay claim to? I have always been of the impression that those who pay for something should have the first shot at using it.

There is little doubt that the bicycle is here to stay. It is time that consideration be given to this problem and a means devised to get them off the streets (for their own protection). One possible solution might be a "use tax" on bicycles with the revenue applied to the construction of bicycle trails. Until such time that something is done, however, I would suggest that bicyclists cast a wary eye on the philosophy that they have as much right to the road as an 18-wheeler. There is always the possibility that the road-tax-paying driver of the 18-wheeler might not share in this philosophy.

Royse Samples
Lawton, OK 73505

NUMBERS TALK

This is in regard to your article in Timely Topics, "How to Drive Without Maps . . . Almost," January 1982 issue, on how to read Interstate highway signs.

An English professor I had pointed out that the numbers "2" and "4" in front of a regular route number, such as 270 or 435, can be translated into English words to help a driver find the way. "To" 70 (270) is a highway that leads *to* I-70. "For" 35 (435) is a highway route used to go *around* the city in place of I-35, which runs *through* the city. It's helped me find my way on cross-country drives.

I enjoy the tips on car maintenance and driving. Wish I'd seen the article on winter driving in a standard car *last* month!

Renee P. Westermann
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DRACULALA
THERE IT IS, IGOR...
"MIDNITE MOTORS, LTD. ...OPEN ALL NIGHT"
FLAP FLAP FLAP FLAP FLAP FLAP FLAP
YEAH, BOSS PUFF PUFF PUFF
IMPORTS
...used cars.....
GOO-O-O-D EVEN-INK! I AM... UH, I... I'M, DUHHH-VOT'S MY NAME IGOR? WHO-O-O-O-O AM I?
PUFF! PUFF! YOU'RE COUNT DRACULALA, BOSS
POOF
PUFF!
THE THROAT FREAK?
SMASH
DOT'S RIGHT, BOOBOO! AIN'TCHA SCARED? BUT TONIGHT I AM COUNT DRACULALA, DA CAR FREAK! AND I'M HERE TO BUY A CAR!
... AN UNSAFE CAR! DA UNSAFER DA BETTER!
LIKE, ONE WIF NO BRAKES! HEE! HEE! HEE HEE HEE!
BOOBOO, I WAN' A SET OF ROTTEN WHEELS I CAN COUNT ON GETTING ME INVOLVED IN A GOOD OLD FASHIONED SMASH 'EM UP!
GOT'CHA! WALK THIS WAY
... A WRECK I CAN GET MY TEETH INTO!
HARD TO WALK THIS WAY...
IMPORTED FROM TRANSYLVANIA the 1983 BOT
LUV bot stylin'
LOOKIE, BOSS, DA GAS TANK'S IN DA DRIVER'S SEAT...
THIS LITTLE GEM IS MADE OUTTA BALSA WOOD AND RECYCLED BEER CANS
ZERO to 30 in 45 minutes VA-ROOM!
the ULTRALIGHT ITSY BITSY BOT!
NOT THE SAFEST CAR IN THE WORLD
BUT OH! THAT GAS MILEAGE!
27 MPG CITY
40 MPG HIGHWAY... NAISE
IT'S YOU, COUNT, IT'S DEFINITELY YOU!
YOU LIKE?
FOIST, GET RID OF DA MIRRORS THEN, A TEST RIDE!
WILD!
5 MPH INTO A PICKET FENCE AND I'VE GOTS INSTANT WEALTH FOR SOME BODY AND FENDER MAN!
NEATO!
THREW ME 15 FEET STRAIGHT UP IN DA AIR! CRAZY!
BETTER THAN A DOUBLE SHOT OF PLASMA!
SALES
THEN WE'VE GOT A DEAL?
SORRY, BOOBOO, I CAME DOWN ON DA FENCE AND YOU KNOW HOW IT IS WITH WAMPIRES AND STAKES IN DA GIZZARD...
AT SUNRISE, HE'S A GONER... HEE! HEE! HEE! HEE! HEE! HEE!
Y' GOTTA BUCKLE-UP IN THOSE LITTLE CARS, TOO, COUNT...
I LIKE YOUR THROAT, BOOBOO!